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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,158	02/14/2001	Masayuki Orihashi	P20624	8318
7055	7590	04/21/2005	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			PERILLA, JASON M	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/782,158

Applicant(s)

ORIHASHI ET AL.

Examiner

Jason M Perilla

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-13, 19, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11, 12, 19 and 22 is/are rejected.
- 7) ☒ Claim(s) 13 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 11-13, 19, 22, and 23 are pending in the instant application.

Response to Arguments/Amendments

2. Applicant's arguments, see page 4, filed November 18, 2004, with respect to claims 11-13, 19 and 22 have been fully considered and are persuasive *in view of the amendments to the claims*. The art rejections of claims 11-13, 19, and 22 presented in the office action of August 20, 2004 have been withdrawn. However, new art rejections are made.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

4. Claims 11-13, 19, 22, and 23 are objected to because of the following informalities:

Regarding claims 11 and 19, a definition of Eb/No is not provided in the claim.

Regarding claims 13 and 23, the claims are objected to because they are not clearly definite and enabled. The parent claims 11 and 19 specify "a synchronization timing", however, dependent claims 13 and 23 further limit parent claims 11 and 19 to utilize "a number of times the synchronization timing is detected", and it amounts to a gap in the apparatus or method because the detector is defined as finding one timing rather than a number of timings. Further, the parent claims limit the calculation length controller to control the calculation length according to at least one of the signal to noise

ratio, the reception power, and the Eb/No, however, claims 13 and 23 limit the controller to control the calculation length according to the number of times the synchronization is detected. Therefore, one skilled in the art is unable to determine what, definitively, the calculation length is determined according to. Finally, the control of the calculation length according to the "number of times the synchronization is detected" is not enabled plainly in the specification. That is, the specification relates separately to finding a synchronization timing and finding multiple peaks of a multipath signal, but does not clearly specify how one would control the calculation length according to a number of times the synchronization timing is detected.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 11, 12, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu (US 5818882 – previously cited) in view of Walley et al (US 674480; hereafter "Walley").

Regarding claim 11, Komatsu discloses a radio reception apparatus (fig. 3; col. 2, lines 59-62) comprising: a correlation calculator (fig. 3, refs. 4a-n; col. 5, lines 55-67; col. 7, lines 9-18) for performing a correlation calculation having a calculation length on a reception signal using a known signal (col. 5, line 61 -"spread code"); a delay detector

(figs. 3 and 4, refs. 5a-n; col. 6, lines 3-15) for performing delay detection using the signal after said correlation calculation (col. 7, lines 18-26); and a detector for detecting synchronization timing from the delay detection output (fig. 3, ref. 7; fig. 4, refs. 20-22; col. 6, lines 32-35). Komatsu does not explicitly disclose a reception situation estimator or a calculation length controller that controls the calculation length according to a signal to noise ratio, a reception power or an Eb/No. However, Walley teaches a technique to adjust a transmission and reception rate of a spread spectrum system according to a reception situation or signal to noise ratio (abstract; col. 1, lines 26-41; col. 3, lines 15-20; col. 4, lines 17-25). Walley teaches by figure 8 a transmit controller (805) which utilizes both a variable transmit duty cycle (bitrate) controller (819) and a variable length PN code generator (807) along with input variables of the data receive rate (811), the Interference or signal to noise ratio (813), and the signal strength or reception power (815) to adaptively determine an appropriate PN code length and data bitrate for a given reception situation according to the input variables (col. 8, lines 9-15; col. 8, line 55-col. 9, line 16; **col. 9, lines 48-56**). Walley teaches the input variables (fig. 8, refs. 811, 813, and 815) are applied to the transmit controller (805) and, therefore, teaches a reception situation estimator which must exist to produce the input variable signals. Further, the transmit controller (805) controls the length of the calculation length by controlling the length of the spreading code according to the input variables from the reception situation estimator (not shown). Although the teachings of Walley are mostly in the context of the length of the spreading code for transmission, Walley does explain that the variability of the data bitrate and spreading code according to the reception situation

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does apply to transmit and receive functions as understood by one having skill in the art (col. 9, lines 1-3). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize a reception situation estimator and a calculation length controller as taught by Walley in the apparatus of Komatsu because the data bitrate and spreading rate could be appropriately adjusted according to the signal to noise ratio, for instance.

Regarding claim 12, Komatsu in view of Walley disclose the limitations of claim 11 as applied above. Further, Walley discloses that it is advantageous to increase the spreading rate and, hence, the calculation length when the signal to noise ratio is bad (abstract, lines 23-28; col. 3, lines 15-20; col. 4, lines 23-25). That is, to increase interference tolerance and increase the range of the transmission, the spreading rate and calculation length should be increased. Likewise, Walley discloses that the calculation length (spreading code) may be decreased when the reception situation is favorable (col. 4, lines 17-22) to increase the bit rate.

Regarding claims 19 and 22, the claim limitations are disclosed by Komatsu in view of Walley as applied to claims 11 and 12, above.

Allowable Subject Matter

7. No claims are allowed.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art of record not relied upon above is cited to further show the state of the art with respect to variable spreading rate correlators.

U.S. Pat. No. 6763056 to Ohsuge.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

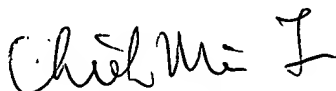
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M. Perilla
April 8, 2005

jmp



CHIEH M. FAN
PRIMARY EXAMINER